

REMARKS

Claims 1-20 are pending in the application. By way of this amendment, new dependent claims 21-23 have been added.

The Applicants appreciate the Examiner's indication that claims 8 and 19 are allowable and that claims 9-11 would also be allowable if rewritten to overcome a rejection under § 112, second paragraph.

Claims 1-7 and 9-18 are rejected under § 112, second paragraph, due to certain language discussed on page 3 of the Office Action. By way of this amendment, claims 1, 9, and 12 have been amended to eliminate the language considered objectionable.

Claims 1, 4, 12, and 15 stand rejected under § 102 based on Cline. Claims 2, 3, 5-7, 13-14, 16-18, and 20 stand rejected under § 103 based on Cline and Annis. Cline is cited regarding connectivity processing.

By way of this amendment, independent claims 1, 12, and 20 have been carefully amended to further define the invention. In addition, new dependent claims 21-23 have been added to further define the invention.

These amended and new claims recite the contiguity evaluation processing of the present invention. This processing is not disclosed or suggested by the prior art. This processing is described, for example, from page 6, line 27 to page 7, line 25 of the present application.

In more detail, the independent claims have been amended to recite that the present invention employs a contiguity evaluation process wherein, for a given voxel, voxels in the same plane as the given voxel, and in planes above and below the given voxel, are compared to the given voxel for contiguity. As summarized on page 7, lines 23-25, one of the advantages of such a process is that thin regions of any shape and any orientation can be easily identified.

The technique of the present invention is in contrast to the technique of Cline, which performs two-dimensional connectivity analysis of each slice independently of the connectivity of other slices, and then works on matching up the slices. Please see, for example, steps c and d of claim 1 of the Cline patent. The technique of the present invention is clearly not disclosed or suggested by Cline or by the secondary reference Annis.

New dependent claims 21-23 define an additional feature which is not disclosed or suggested by the prior art. More specifically, the new dependent claims recite that in the contiguity evaluation process, a difference between a property of the given voxel and a property of voxels in the planes above and below, is employed to evaluate contiguity.

It is therefore respectfully submitted that the claims in the application are clearly patentable over the prior art.

Regarding the objection and rejection under the first paragraph of § 112, it is believed that the amendment set forth above, which further defines and clarifies the invention, sets forth an invention which is clearly enabled by the present specification.

It is noted that in one preferred embodiment described in the present specification, three properties are evaluated in a particular order. However, three such evaluation steps are not required, as indicated on page 8, lines 14-18, and on page 10, lines 18-24 of the specification. Also, as correctly recognized on page 2 of the Office Action, the present invention can be applied to identify air volumes in composite material caused by delamination. It can be appreciated that in such an application, determining the mass of the air volume may not be necessary.

Also, it is noted that, as stated in MPEP § 2164.03, even a single embodiment may provide broad enablement in predictable arts such as the mechanical or electrical arts.

Serial No. 08/325,145

It is therefore respectfully submitted that the specification and amended claims comply with all of the requirements of § 112.

Regarding the PTO 948 form included with the Office Action, the Applicants' representative respectfully requests reconsideration of the draftsperson's comments in paragraph 9 of the form PTO 948. Figure 4 provides actual dimensions; however, Fig. 4 is not actual size or one-half scale.

It is believed that the application is now in condition for allowance. However, the Examiner should feel free to contact the undersigned if this would assist in examination of the application.

A Petition for a one-month extension of time is attached.

Respectfully submitted,



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Date

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